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Magnetic Moment of the extremely proton rich nucleus ^{23}Al TAKASHI NAGATOMO, KENSAKU MATSUTA, YOSHIKI NAKASHIMA, MOTOTSUGU MIHARA, RYOHEI MATSUMIYA, MITSUNORI FUKUDA, Osaka Univ., AKIRA OZAWA, TAKUMA YASUNO, Univ. of Tsukuba, KAZUNARI YAMADA, Rikkyo Univ., TAKASHI OHTSUBO, TAKUJI IZUMIKAWA, DAISUKE SHINOJIMA, HIDEKI TANAKA, Niigata Univ., TAKAYUKI YAMAGUCHI, SHIN-PEI NAKAJIMA, HISASHI MAEMURA, TAKESHI SUZUKI, Saitama Univ., TOSHIYUKI SUMIKAMA, KANENOBU TANAKA, KOICHI YOSHIDA, Riken, SADAO MOMOTA, YOICHI NOJIRI, Kochi Univ. of Tech., TADANORI MINAMISONO, Fukui Univ. of Tech., ISAO TANIHATA, ANL — We have studied the spin parity of ^{23}Al through the measurement of the magnetic moment by the β-NMR method. The experiment was performed at RIKEN/ RIPS. The polarized ^{23}Al nuclei were produced through the 135-AMeV ^{28}Si and Be collisions, and were separated by the RIPS separator and RF deflector. The NMR was observed by the β-ray asymmetry change. From the resonance frequency, we determined the $g-$factor of ^{23}Al as $|g|(^{23}\mathrm{Al}) = 1.56(9)$. From the comparison between the present result and the shell model calculation, it was found that ^{23}Al had the normal spin parity of $5/2^+$. The magnetic moment was determined as $|\mu|(^{23}\mathrm{Al}) = 3.89(22)$ μ_N. The level inversion between $d_{5/2}$ and $s_{1/2}$ states was not seen in the structure of ^{23}Al.

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